

REMARKS

This is intended as a full and complete response to the Office Action dated June 18, 2008, having a shortened statutory period for response extended one month and set to expire on October 18, 2008. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-31 remain pending in the application and are shown above. Claims 1-19 and 21-31 have been cancelled by Applicant without prejudice. Claims 1-31 are rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claim 20 has been rewritten to present pending claim 20 in independent form. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference.

In an Advisory Action dated September 18, 2008, the Examiner states that "the proposed After Final Amendment, filed on 08/18/2008, will not be entered because it raises new issues for further consideration, such as new limitations of claim 20, for example, 'consist of.'" Applicant submits that pending claim 20 has been rewritten to present claim 20 as amended in Applicant's AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION filed May 23, 2008, in independent form. Applicant respectfully submits that amended claim 20 no longer presents new issues for further consideration.

Claim Rejections – 35 U.S.C. § 112, First Paragraph

Claim 20 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that "the new claim 20 limitation 'an ultrasonic transducer and a mass flow meter' is not disclosed." Applicant respectfully submits after review of the Final Office Action dated June 18, 2008 and the Advisory Action dated September 18, 2008 that the Examiner erroneously asserts that the current specification fails to support the claims language "comprises an ultrasonic transducer and

a mass flow meter." Applicant submits that support for claim 20 may be found, for example, in claim 20 as originally filed which stated "wherein the gas analyzer is selected from the group consisting of ultrasonic transducers, infrared spectroscopy, ultraviolet spectroscopy, gas chromatography, mass spectroscopy, mass flow meters and combinations thereof." (See US Patent Application Serial No. 10/700,328 at 21, emphasis added.) Thus original claim 20 states that the gas analyzer broadly includes a combination of an ultrasonic transducer and a mass flow meter as well as further combinations with other members of the group. As a result, original claim 20 supports the claim limitation "comprises an ultrasonic transducer and a mass flow meter" as recited in amended claim 20. Withdrawal of the rejection is respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 3-11, 13-19, 21-23 and 25-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iseki et al* (U.S. Patent No. 6,174,371), further in view of *Gomi* (U.S. Patent No. 5,288,325). Claim 20 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iseki et al* (U.S. Patent No. 6,174,371), further in view of *Gomi* (U.S. Patent No. 5,288,325), further in view of *Yoshioka et al* (U.S. Patent No. 6,074,487). Applicant respectfully traverses the rejection. Claims 1-19 and 21-31 have been cancelled. Applicant respectfully traverses the rejection of claim 20.

Iseki et al, *Gomi*, and *Yoshioka et al*, alone or in combination, do not teach, show, suggest, or otherwise render obvious a system comprising a precursor monitoring apparatus disposed between the process chamber and the vessel, wherein the precursor monitoring apparatus has a gas analyzer to generate a signal indicative of a concentration of the precursor in the process gas or the signal is indicative of the flow rate of the precursor, wherein the gas analyzer comprises an ultrasonic transducer and a mass flow meter as recited in claim 20.

At page 11 of the Final Office Action dated June 18, 2008, the Examiner states that '371 and '325, together, do not teach the limitations of claim 20: The gas analyzer comprises an ultrasonic transducer and a mass flow meter. The Examiner further states '487 is analogous art in the field of vaporizers, particularly in accurate concentration of mixed liquid, which meets the need of '371 for adjusting partial pressure of the vapor of treating liquid and that '487 provides an ultrasonic vibrator/transducer (#207, Fig. 13, col. 9, lines 62-67). The Examiner concludes that it would have been obvious to a person having ordinary skill in the art to have replaced the vaporizer #10 in Figure 2 of '371 with the vaporizer in Figure 13 of '487, therefore having an ultrasonic transducer and a mass flow meter which make up for the gas analyzer.

Even assuming, *arguendo*, that it would have been obvious to one of ordinary skill in the art to have replaced the vaporizer #10 in Figure 2 of '371 with the vaporizer in Figure 13 of '487, the resulting structure would not include each of the elements and limitations recited in independent claim 20.

If one of ordinary skill in the art were to replace the vaporizer #10 with the vaporizer in Figure 13 of '487 the resulting structure would not include a precursor monitoring apparatus disposed between the process chamber and the vessel, wherein the precursor monitoring apparatus has a gas analyzer to generate a signal indicative of a concentration of the precursor in the process gas or the signal is indicative of the flow rate of the precursor, wherein the gas analyzer comprises an ultrasonic transducer and a mass flow meter as recited in claim 20.

Yoshioka et al teaches a vaporizing means 201 that has such an arrangement that an ultrasonic sprayer 205 is integrated with a vaporizer 206. The ultrasonic sprayer 205 comprises an ultrasonic vibrator 207 which sprays the liquid material M by means of vibration when voltage is applied. Thus *Yoshioka et al* teaches an ultrasonic sprayer 205 integrated with a vaporizer 206. Consequently, replacing the vaporizer #10 of '371 with the vaporizer in figure 13 of '487 would result in a structure where the ultrasonic sprayer 205 of '487 is exposed to the treating liquid not the treating vapor mixture of '371.

Therefore, the Applicants respectfully submit that *Iseki*, in view of *Gomi*, and further in view of *Yoshioka et al* alone or in combination, do not teach, show, suggest, or otherwise render obvious a system comprising a process chamber, a gas delivery system adapted to deliver a precursor from a vessel containing the precursor to the process chamber via a process gas produced by flowing a first carrier gas into the vessel and combining the first carrier gas with a second carrier gas flowing through a bypass around the vessel, a precursor monitoring apparatus disposed between the process chamber and the vessel, wherein the precursor monitoring apparatus has a gas analyzer to generate a signal indicative of a concentration of the precursor in the process gas or the signal is indicative of the flow rate of the precursor, wherein the gas analyzer comprises an ultrasonic transducer and a mass flow meter, and an integral controller to receive the signal, as recited in claim 20. Withdrawal of the rejection is respectfully requested.

Claims 2, 12 and 24 rejected under 35 U.S.C. § 103(a) as being unpatentable over *Iseki et al* (U.S. Patent No. 6,174,371), further in view of *Gomi* (U.S. Patent No. 5,288,325), further in view of *Renken et al* (U.S. Patent No. 4,685,331). Claim 2 has been cancelled. Claims 2, 12, and 24 have been cancelled by Applicant.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this Final Office Action.

Application No. 10/700,328
After Final Office Action of June 18, 2008

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Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

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